

Title (en)  
SPUTTERING TARGET FOR THIN FILM FORMATION, DIELECTRIC THIN FILM, OPTICAL DISK, AND PROCESS FOR PRODUCING THE SAME

Title (de)  
SPUTTERTARGET ZUR BILDUNG VON DÜNNEN FILMEN, DIELEKTRISCHER DÜNNER FILM, OPTISCHE SCHEIBE UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
CIBLE DE PULVÉRISATION POUR LA FORMATION DE COUCHE MINCE, COUCHE MINCE DIÉLECTRIQUE, DISQUE OPTIQUE, ET LEUR PROCÉDÉ DE PRODUCTION

Publication  
**EP 1780299 A4 20080312 (EN)**

Application  
**EP 05740996 A 20050518**

Priority  
• JP 2005009101 W 20050518  
• JP 2004191149 A 20040629

Abstract (en)  
[origin: EP1780299A1] Diffusion of water or oxygen present in the dielectric protection film is restrained by eliminating free oxygen in an oxide thin film while maintaining the characteristics of a dielectric protection film. As the dielectric material for forming a dielectric protection film for an optical disc or the like, an oxide mixture thin film of a niobium oxide and one of a silicon oxide and a titanium oxide is used. In a preferable example, a target made of a niobium oxide as the main component with 1 to 30% by weight of a silicon oxide added is used for formation of an oxide thin film by sputtering. Moreover, the oxide thin film is formed preferably in a nitrogen atmosphere. A nitrogen containing oxide thin film is produced by carrying out sputtering using a target with the oxygen lacked and a minute amount of nitrogen added. Thereby, a thin film having little reducing function and a high barrier property while having the characteristics comparable to a complete oxide can be produced.

IPC 8 full level  
**C23C 14/34** (2006.01); **C23C 14/08** (2006.01); **G11B 7/24** (2006.01); **G11B 7/26** (2006.01)

CPC (source: EP KR US)  
**C23C 14/34** (2013.01 - KR); **C23C 14/3414** (2013.01 - EP US); **G11B 7/266** (2013.01 - EP US)

Citation (search report)  
• [X] JP 2001058871 A 20010306 - KYOCERA CORP  
• [X] US 2003170504 A1 20030911 - TANINAKA YASUNORI [JP], et al  
• [X] US 2001010288 A1 20010802 - VANDERSTRAETEN JOHAN EMILE MAR [BE]  
• [A] JP 2003013201 A 20030115 - KYOCERA CORP  
• [DA] JP H01133229 A 19890525 - HITACHI LTD, et al  
• See references of WO 2006001138A1

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TWI582255B

Designated contracting state (EPC)  
DE FR GB NL

DOCDB simple family (publication)  
**EP 1780299 A1 20070502; EP 1780299 A4 20080312**; KR 20070045191 A 20070502; TW 200602504 A 20060116;  
US 2008271988 A1 20081106; WO 2006001138 A1 20060105

DOCDB simple family (application)  
**EP 05740996 A 20050518**; JP 2005009101 W 20050518; KR 20077000712 A 20070111; TW 94116239 A 20050519; US 63098405 A 20050518